



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor: Hilal Ezzeddine  
Title: **MODE-SWITCHING TRANSFORMER**  
Serial No.: 10/699,100  
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**CERTIFICATE OF MAILING**

I hereby certify that this paper or fee is being deposited with the United States Postal Service as First Class Mail addressed to: Mail Stop AF, Commissioner for Patents, P.O. BOX 1450, Alexandria, VA 22313-1450

on this 19<sup>th</sup> day of November, 2007 by

  
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Signature

**DECLARATION PURSUANT TO 37 C.F.R. § 1.132**

TO THE COMMISSIONER FOR PATENTS:

This Declaration traverses the rejection of claims 1 and 3-12 under 35 U.S.C. § 103(a) as being unpatentable over AAPA in view of Waffenschmidt et al. (US 6,529,363).

I, Michael Callahan, hereby declare the following:

- 1) I am a technical expert in the field of electrical circuits and devices, including transformers.
- 2) I have reviewed the present application and the Waffenschmidt reference (US 6,529,363).
- 3) Claim 1 of the present application recites a mode-switching transformer comprising a first line in common mode and a second line in differential mode, wherein the common mode line is connected in series with a capacitor to lower a central frequency of a bandwidth of the transformer.
- 4) Applicant's admitted prior art (AAPA) of FIG. 2 of the present application discloses a mode-switching transformer 1 having a first line (sections 5 and 6) in common mode and a second line (sections 7 and 8 and junction point 9) in differential mode. By definition, the mode-switching transformer 1 aims at converting a common mode signal into a differential mode signal.
- 5) The Waffenschmidt reference discloses a switched-mode power supply having a capacitor in a transformer 16 (FIG. 3). By definition, the switched-mode power supply aims at switching a DC power supply to pass through an isolation barrier made by the transformer 16.
- 6) The Waffenschmidt reference does not disclose or suggest a transformer having common mode windings and differential mode windings. In fact, there is no mention whatsoever of a mode-switching transformer in the Waffenschmidt reference.
- 7) The Waffenschmidt reference does not disclose or suggest lowering the central frequency of a transformer with a capacitor. In fact, there is no mention whatsoever of adding a capacitor in series with a winding structure for the purpose of lowering the central frequency of the transformer in the Waffenschmidt reference.

8) Because the switched-mode power supply of Waffenschmidt is not even in the same field as the mode-switching transformer of the present application, there is no motivation to combine the teachings of Waffenschmidt with the Applicant's admitted prior art (AAPA).

9) Furthermore, because Waffenschmidt does not disclose or teach lowering the central frequency of a transformer with a capacitor, the combination of Waffenschmidt and the Applicant's admitted prior art (AAPA) would not even lead to the invention as recited in claim 1.

10) I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Michael Callahan

Full Name

Citizenship

Residence

Signature

Date